

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/19263

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C01F11/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, CHEM ABS Data, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 920 800 A (HARRIS DWIGHT L) 18 November 1975 (1975-11-18) column 5, line 38 - line 51; claims; figure 1	17-20
A	column 6, line 34 - line 43; figure 1 ---	1-16
X	US 2 080 616 A (GEORGE LYNN) 18 May 1937 (1937-05-18) page 2, left-hand column, line 4 - line 7	17-20
A	the whole document ---	1-16
X	EP 1 160 201 A (HUBER CORP J M) 5 December 2001 (2001-12-05) the whole document ---	17-20
X	US 5 205 493 A (DENHOLM CHARLES B ET AL) 27 April 1993 (1993-04-27) the whole document ---	17-20
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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A document defining the general state of the art which is not considered to be of particular relevance

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O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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G document member of the same patent family

Date of the actual completion of the international search

17 March 2003

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24/03/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Zalm, W

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98 41475 A (KAUTAR OY ; VIRTANEN PENTTI (FI)) 24 September 1998 (1998-09-24) the whole document ----	1-16
A	EP 1 016 628 A (SOLVAY SODA DEUTSCHLAND GMBH) 5 July 2000 (2000-07-05) -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/19263

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3920800	A	18-11-1975	NONE	
US 2080616	A	18-05-1937	NONE	
EP 1160201	A	05-12-2001	US 6402824 B1 CA 2347547 A1 EP 1160201 A2	11-06-2002 26-11-2001 05-12-2001
US 5205493	A	27-04-1993	AU 3277193 A CA 2125695 A1 EP 0616602 A1 FI 942797 A NO 942218 A WO 9312038 A1	19-07-1993 24-06-1993 28-09-1994 25-07-1994 28-07-1994 24-06-1993
WO 9841475	A	24-09-1998	FI 971161 A AU 747174 B2 AU 6501498 A CN 1257460 T EP 0968134 A1 WO 9841475 A1 US 6416727 B1	20-09-1998 09-05-2002 12-10-1998 21-06-2000 05-01-2000 24-09-1998 09-07-2002
EP 1016628	A	05-07-2000	DE 19900021 A1 EP 1016628 A1 JP 2000203831 A KR 2000052567 A PL 337603 A1 US 2002164280 A1 US 6500400 B1	06-07-2000 05-07-2000 25-07-2000 25-08-2000 03-07-2000 07-11-2002 31-12-2002